ICE MOUNTAIN SPRING WATER PETITION
FOR A
NO ADVERSE RESOURCE IMPACT DETERMINATION

DETERMINATION
AND
RESPONSE TO PUBLIC COMMENTS

FEBRUARY 2, 2007

Michigan Department of Environmental Quality
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EXECUTIVE SUMMARY

ICE MOUNTAIN SPRING WATER PETITION FOR A NO ADVERSE RESOURCE IMPACT DETERMINATION

On August 30, 2006, the Department of Environmental Quality (DEQ) received from Nestle Waters North America (Nestle) a petition under Section 32724(1) of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (NREPA). That petition requested the DEQ determine whether a proposed new withdrawal of groundwater is not likely to cause an adverse resource impact under Part 327, Great Lakes Preservation, of the NREPA. The petition included a Report in Support of Application for Determination of No Adverse Resource Impact for the White-Cedar-Osceola Site, Osceola County, Michigan, which was prepared for Nestle by Malcolm Pirnie, Inc.

Section 32724(4) of the NREPA provides that the DEQ issue a written determination on the petition within 120 days of an administratively complete petition. The DEQ determined that the Nestle petition was administratively complete on September 28, 2006.

On December 18, 2006, the DEQ issued a Proposed No Adverse Resource Impact Determination for the proposed Nestle withdrawal.

Although Part 327 of the NREPA does not require an opportunity for public comment, the DEQ invited public comment on the proposed determination relative to the likelihood of an adverse resource impact. The DEQ issued a press announcement on the proposed determination on December 18, 2006, and posted the proposed determination on the DEQ's Web site the following day. A public notice was posted in The Grand Rapids Press, Grand Rapids, Michigan, on December 24, 2006, requesting comments by January 15, 2007.

After considering the information submitted relevant to the factors used in determining the likelihood of an adverse resource impact and the comments received on the proposed determination, the DEQ determined that the proposed Nestle withdrawal would not be likely to cause an adverse resource impact.

This document includes the basis for that determination. It also responds to comments received on the proposed determination including concerns relative to the petition process, the environmental impacts of water withdrawals, the legality of the proposed water use, and the applicability of rules and regulations to the proposed withdrawal.

Many of the early comments were critical of the short duration for the comment period. The DEQ was limited in its ability to provide public comment by a statutorily required time frame for responding to the petition. The DEQ recognizes that this is the first application of the adverse resource impact standard created in the 2006 amendments to Part 327 of the NREPA. Therefore, the DEQ agrees to review and respond to additional comments received on application of that standard by March 15, 2007.

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I. BACKGROUND

Proposed Withdrawal

The location of the proposed water withdrawal is the Nestle White-Cedar-Osceola Site (W-C-O Site) located one-fourth mile west of 100th Avenue and one-fourth mile south of 9 Mile Road in the NW ¼, SW ¼, NE ¼ of Section 20, Osceola Township, Osceola County. The petitioner, Nestle Water of North America (Nestle), will use the water as a source for bottled water, which is a 100 percent consumptive use with all of the withdrawn water permanently removed from the local hydrologic system. The withdrawal is to be via a production well, designated PW-101, with a maximum proposed pumping rate of 150 gallons per minute (gpm), or 216,000 gallons per day (gpd).

Hydrologic Setting

The Report in Support of Application for Determination of No Adverse Resource Impact for the White-Cedar-Osceola Site, Osceola County, Michigan, which was prepared for Nestle by Malcolm Pirnie, Inc., provided detailed hydrologic information for the area near the proposed withdrawal. Figure 2-3 of the report identifies stream segments in the area and key locations that have site-specific hydrologic information. This document references several of those locations and includes Figure 2-3 for reference at the end of this document.

The W-C-O Site is in the upper reaches of the Chippewa Creek watershed. It is also very close to the Twin Creek watershed. The general vicinity of the withdrawal can be characterized as groundwater recharge areas that contribute base flow to both creeks and the Muskegon River. The water well, PW-101, is screened approximately 60 to 140 feet below the water table. At this depth, it is likely that the drawdown cone formed by pumping PW-101 will intercept groundwater that naturally discharges further downstream in the two creeks as well as the Muskegon River.

Referring to the attached Figure 2-3 from the Malcolm Pirnie, Inc., report, conservative approximations by the DEQ of the stream segments that may be affected by the proposed withdrawal include:

- The reach located downstream of the Nestle stream flow monitoring location SF-9 on Twin Creek, just upstream of the confluence with tributary segment number 3695.
- The reach downstream of the Nestle stream flow monitoring location SF-16 on Chippewa Creek, upstream of the confluence with tributary segment number 0705.

An important component of the discussion that follows is the drainage area of the affected stream segments. The drainage area for the stream segment on Twin Creek that will likely be impacted is 16.7 square miles. The Chippewa Creek stream segment that will likely be impacted has a drainage area of 2.9 square miles.

II. STATUTORY STANDARD

An “adverse resource impact” is “decreasing the flow of a stream by part of the index flow such that the stream’s ability to support characteristic fish populations is functionally impaired” [MCL 324.32701(a)(i)].

The “index flow” is “the 50 percent exceedance flow for the lowest flow month of the flow regime, for the applicable stream reach, as determined over the period of record or extrapolated from comparison and analysis of United States Geological Survey (USGS) stream flow gages in

Michigan" [MCL 324.32701(o)]. The index flow represents a summer low flow condition; it is the median flow for the lowest flow month, in this case August.

III. ESTIMATES OF FLOW

Flow Estimates Based on Drainage Area Ratio

There are no USGS stream flow gages on either Twin Creek or Chippewa Creek. The standard method to estimate stream flows on an ungaged stream is to find a USGS gage on a stream that has similar hydrologic characteristics in its watershed. An estimate of stream flow for the ungaged stream is then obtained as a proportion of the gaged flow based on the ratio of the drainage areas for the two hydrologically similar watersheds.

The USGS gage on the East Branch Pine River near Tustin (#04124500) has the same surface geology as the upper portions of Twin Creek and Chippewa Creek.

The ratio of the drainage area between Twin Creek or Chippewa Creek to the drainage area of the East Branch Pine River can be used to estimate the stream flow at the ungaged locations. This is accomplished by multiplying the ratio of the drainage areas by the flow at the gaged location to estimate the corresponding flow at the ungaged site in question. Using this approach, the index flow at the East Branch Pine River gage is the 50 percent August exceedance flow, or 9.6 cubic feet per second (cfs). The drainage area at the gage is 58.9 square miles. The index flow at Twin Creek and Chippewa Creek can then be estimated by multiplying the 9.6 cfs index flow from the East Branch Pine River gage by the ratio of the drainage areas. The drainage area for Twin Creek is 16.7 square miles resulting in an index flow for Twin Creek of 2.7 cfs. The index flow for Chippewa Creek is 0.5 cfs based upon a drainage area of 2.9 square miles. *Table 1: W-C-O Site Flow and Allowable Withdrawal Determination* provides a summary of these calculations.

Improved Flow Estimates from Site-Specific Data

The above estimates can be improved upon when stream flow measurements are available at the ungaged site in question. The site measurements can be statistically correlated with flows that occurred at the same time at the USGS gage. The equation developed by the correlation can be applied to the gaged flows to provide improved flow estimates at the ungaged site in question.

Malcolm Pirnie, Inc., took numerous stream flow measurements at Nestle stream flow monitoring locations SF1, SF9, SF16, and SF17 on Twin Creek and Chippewa Creek. The stream flow measurements were correlated with the corresponding flow at the East Branch Pine River gage. The resulting improved estimates for the index flow are 4.4 cfs for Twin Creek and 3.8 cfs for Chippewa Creek. Malcolm Pirnie, Inc., used a different analysis and estimated the respective index flows to be 5 cfs and 4.2 cfs. Their results are somewhat higher than the DEQ estimates. The results are also summarized in *Table 1: W-C-O Site Flow and Allowable Withdrawal Determination*.

IV. FISH POPULATION AND FLOW REDUCTION

Characteristic Fish Population

Twin Creek and Chippewa Creek are designated by the Department of Natural Resources (DNR) as trout streams. Historic DNR sampling indicated the presence of numerous brook and

brown trout, mottled sculpin, creek chubs, and blacknose dace - characteristic of trout streams. Few other fish species were present in samples, another sign of a trout stream assemblage. Supplemental data and analyses provided by Malcolm Pirnie, Inc., also showed these creeks having base flow yields and summer temperatures characteristic of trout streams, and that trout, sculpins, and dace were the dominant fish species present.

Effect of Reduction in Flow

In order to determine if a proposed withdrawal will result in an adverse resource impact, the DEQ must determine what portion of index flow can be withdrawn without functionally impairing the stream's ability to support the characteristic fish populations.

The DNR has conducted studies of the deviation from index flow for various stream fish community types in Michigan. These studies evaluated the natural variation of index flow for streams. Based on these studies, the DNR has indicated that limiting the reduction in flow from a proposed withdrawal to □0.25 standard deviations from the index flow is a conservative limit that will protect the functional character of stream fish assemblages.

DNR analyses of flow data from a subset of Michigan trout streams showed that 0.25 standard deviations from the index flow was equal to 13 percent of the index flow. Therefore, the DNR determined the maximum portion of the index flow that can be withdrawn at these locations is 13 percent. This is called the "habitat factor" and is multiplied by the index flow to determine the maximum allowable withdrawal. More water naturally flows in the stream during other times of the year, but only a portion, based on summer low flow, can be withdrawn. This protects the stream flow during the critical low flow period as well as preserves seasonal and annual flow variation, which are important to protecting the aquatic habitat for the fish populations. In this case:

- The allowable withdrawal from Twin Creek is approximately 0.6 cfs, an equivalent of 260 gpm or 374,400 gpd.
- The allowable withdrawal from Chippewa Creek is approximately 0.5 cfs, an equivalent of 220 gpm or 316,800 gpd.
- The combined allowable withdrawal from the two watersheds is 1.1 cfs, an equivalent of 480 gpm or 691,200 gpd.

The results are shown on *Table 1: W-C-O Site Flow and Allowable Withdrawal Determination*.

V. FINAL DETERMINATION

The proposed withdrawal would intercept groundwater discharging to Twin Creek and Chippewa Creek. Therefore, the effect of the proposed withdrawal is measured against the combined allowable withdrawal from both creeks. The proposed maximum withdrawal is 150 gpm or 216,000 gpd, which is well below the combined allowable withdrawal of 480 gpm or 691,200 gpd. Further, the proposed withdrawal is less than the allowable withdrawal from the watershed of either creek alone.

Based on the above, the DEQ finds that the proposed Nestle withdrawal of 150 gpm or 216,000 gpd from the described W-C-O Site is not likely to cause an adverse resource impact on either Twin Creek or Chippewa Creek.

VI. PUBLIC PARTICIPATION PROCESS

On December 18, 2006, the DEQ issued a Proposed No Adverse Resource Impact Determination for the proposed Nestle withdrawal.

Although Part 327 of the NREPA does not require an opportunity for public comment, the DEQ invited public comment on the proposed determination relative to the likelihood of an adverse resource impact. The DEQ issued a press announcement on the proposed determination on December 18, 2006, and posted the proposed determination on the DEQ's Web site the following day. The web posting included information regarding the proposed action; Internet addresses where additional information could be obtained; a telephone number and contact person for obtaining additional information; the January 15, 2007, closing date of the public comment period; and a mailing address and e-mail address where written comments could be sent. A public notice was posted in The Grand Rapids Press, Grand Rapids, Michigan, on December 24, 2006, providing the same information.

The remainder of this document is a listing of the comments received to date regarding the Nestle petition and the DEQ's response to the comment on the basis of the applicable rule, policy, and procedure in administration of the petition process under Part 327 of the NREPA.

Sufficiency and Interpretation of Available Data used in Making the Proposed No Adverse Resource Impact Determination: The DEQ received comments relevant to the interpretation and availability of data that were provided. Many of the comments provided specific criticism on the adequacy of data, the interpretation and application of the data, the projected impact, and the resulting determination.

1. The DEQ did not accurately determine the stream reach that would be affected by the proposed withdrawal.

   Comment: Assessments of stream impacts were limited to downstream ends or reaches of Twin and Chippewa Creeks without consideration to impact at upstream locations in the immediate vicinity of the headwaters.

   Comment: There was no adverse resource impact determination or information for the upper reaches of Chippewa Creek and Twin Creek ignoring possible impacts to as much as one-half mile of stream segment.

   Comment: There was concern over the fact that no mention was made of the potential impact to Decker Pond, which is located downstream on Chippewa Creek, and that groundwater levels beneath the pond should have been monitored during the pump test, as well as the changes in inflow and outflow to the pond.

   Response: The DEQ and DNR characterized the area of withdrawal as a groundwater recharge area contributing base flow to both Twin and Chippewa Creeks and the Muskegon River. The production well at the site is completed approximately 50 to 140 feet below the water table. The DEQ and DNR conservatively applied these two factors to conclude that the pumping of the production well would result in the interception of groundwater that naturally discharges further downstream in the two creeks and, perhaps, as far downstream as the Muskegon River.

2. The DEQ did not accurately evaluate the effect of the withdrawal on stream flow.

   Comment: There was no site-specific soil profiling in the area of the cone of depression, and the DEQ's review was based largely on surface watershed areas as opposed to the groundwater source area.

   Response: Site-specific soil profiling in the area of pumping influence is not necessary in making an adverse resource impact determination. Similarly, using surface water divides as opposed to the groundwater divide is not critical to the determination. The aspects critical to the determination are the estimate of flow and the flow reduction that will be caused by the withdrawal. Flow estimates were based on measured data obtained and submitted by Nestle's consultant. In determining the reduction in flow, it is assumed the total volume of pumped water comes directly from base flow in the impacted stream segments.

   Comment: The habitat factor value of 13 percent does not specifically identify the stream, stream reaches, and data relied on in the assessment and does not accurately show an actual low or median low flow for drier months such as August. It was noted that the minimal flow situation requires the collection of data during the same dry months in order to accurately compute base flow and, more importantly, the "index flow."

   Response: The habitat factor is based on the response of the characteristic fish populations to changes in base flow. Fish populations were determined at hundreds of locations around the state. They were analyzed to determine how changes in base flow affect the characteristic fish population. The result of this analysis (habitat factor = 13 percent) was applied to these streams based on the trout stream assemblage of species found there.

   Comment: A complete list of flow measurements and parameters that were utilized in making the determination should be identified.

   Response: The DEQ requested and obtained, in electronic form, flow measurements for SF-1, 9, 16, and 17. These gages provided data pertinent to the stream reaches determined by the DEQ to be affected by the proposed withdrawal. Flow measurements from these gages could then be related to gages providing historical trend information to calculate a base flow for the streams likely affected by the proposed withdrawal. No additional data was required of the company to complete the determination of base flow.

   Comment: The petition and appendices are all based on average recharge and flow data that has the potential for masking the effects and resulting impacts. Information should have been presented that discloses all baseline and calculated measurements and the simulated results. This comment included concerns over the conditions that exist in the driest months, periods of time when there is no recharge, and the effects seen during the growing season.

   Response: The DEQ attributes these comments to a criticism of how the groundwater flow model, submitted as part of the petition process, was utilized in the determination. The groundwater flow model was not used, nor was it necessary, to make the determination. Stream flow characteristics were adequately defined using the stream flow measurements.

3. There were comments relative to the sufficiency of information, including disclosure of those investigations, studies, and evaluations, used by the DNR to render a decision relative to the petition.

   Response: The DNR had already designated Twin and Chippewa Creeks as trout streams. Supplemental data provided by the petitioner regarding temperature, flow, and fish population confirm the DNR designation.

4. The DEQ did not accurately consider the affected environment. Specifically, there was concern expressed over the lack of wetland delineation at the well site and a similar delineation along the streams, seeps, and surface waters. Accordingly, it is not possible to evaluate the effects and impact on the wetlands and the impact on the streams, fish habitat, and fish populations.

   Response: The administrative determination in question is a very limited one: whether the proposed withdrawal would have an adverse resource impact as defined by Part 327 of the NREPA. Part 327 defines an "adverse resource impact" as "decreasing the flow of a stream by part of the index flow such that the stream's ability to support characteristic fish populations is functionally impaired." The delineation of wetlands is not necessary in determining the effect of a proposed withdrawal on characteristic fish populations. It is important to note, however, that a determination under Part 327 does not indicate whether other environmental standards are met. See further discussion under "Compliance with Other Laws" below.

5. Additional groundwater-related information should have been considered and disclosed in making the proposed determination.

   Comment: It is believed that flows at seeps and weirs during the pump tests should have been disclosed, especially since some of them may have dried up. Further, all measurement points used during the pump tests should be disclosed and considered.

   Comment: Groundwater flow modeling data and calculations were not disclosed, included, or used in the determination.

   Comment: There was a concern about staging of the pump test and the fact that data was not disclosed to indicate the increments and measurements related to the staging. The impact of this activity on Decker Pond was also a concern.

   Comment: A number of comments referenced the need for the inclusion of available pumping data for the entire watershed, an identification of information used to determine hydraulic conductivity, disclosure of transducer and monitoring point records, groundwater model input and output files, copies of field notes, identification of climate records that were relied upon, and identification of the water well and pump records used to characterize the area, survey data, and any other data used to create the model (i.e., groundwater flow model).

   Response: The determination of whether a proposed withdrawal is likely to cause an adverse resource impact does not require groundwater flow modeling information, pump tests (more appropriately referred to as aquifer tests or groundwater resource assessments), or the other information described in these comments. In determining the impact of the proposed withdrawal, the DEQ made the conservative assumption that the flow of the affected streams would be reduced by a volume equal to 100 percent of the withdrawal.

The information described in these comments would only be necessary to justify the evaluation of a reduction in flow at something less than 100 percent of the withdrawal.

6. The DEQ did not disclose all of the data collected by Nestle's experts and what portion of that data was utilized in the analysis. All data utilized in rendering the determination should be made available electronically including stream flows, stream levels, lake and pond levels, wetland levels, and groundwater levels. All of this information should have been depicted graphically to demonstrate the relationship between the listed parameters and made available to the public for comment.

   Response: The DEQ reviewed the information submitted by Nestle's experts in the Report in Support of Application for Determination of No Adverse Resource Impact for the White-Cedar-Osceola Site, Osceola County, Michigan. A review of the information submitted led DEQ, in cooperation with the DNR, to determine the submitted information was sufficient to render the determination required by Part 327 of the NREPA. This information was all made available to the public for review and comment.

Lake and Water Levels: Comments expressed concern over the impact the proposed large quantity withdrawal might have on lake and water levels. The DEQ placed comments in this category if the comments expressed a general concern over local lake or stream levels, the levels of the great lakes, or aquifer levels.

Response: The petition process is restricted to a determination relative to the likelihood of an adverse resource impact. Adverse resource impact is defined as a reduction in stream flow or a reduction in the level of a surface water body such that the ability of the stream or surface water body to support the characteristic fish population is impaired. The DEQ believes it accurately determined the stream reaches likely to be affected by the proposed withdrawal. That affect is not likely to result in a functional impairment of characteristic fish populations in the affected stream reaches. The affect of the proposed withdrawals downstream will decrease with distance.

Impacts to Great Lakes water levels are affected by a number of factors. The levels of the Great Lakes are most affected by precipitation amounts. Lower lake levels have also been attributed to the failure of the Great Lakes to "freeze over" in recent years during the winter months. Without the annual freeze, evaporative losses are greatly increased at a time when the lakes would be expected to lose water at a considerably reduced rate. Extremely large diversions could also play a role, although there have been no new diversions in recent years of a magnitude significant enough to cause a lowering of Great Lakes levels. Large quantity withdrawals by bottlers of water are simply not large enough to be causing the drop in Great Lakes levels observed in recent years.

The administrative determination under Part 327 does not account for the impact of the proposed withdrawal on aquifer levels. The Part 327 determination does not affect legal protections available to others relative to their use of the affected aquifer.

General Concerns of Potential for Environmental Impacts: Comments expressed generalized concern for the environmental impact of the proposed withdrawal. The DEQ placed comments in this category if they could be characterized as a broad expression of concern relative to the environment.

Response: The DEQ, Water Bureau, in conjunction with the DEQ, Land and Water Management Division, and the DNR, Fisheries Division, reviewed the Report in Support of

Application for Determination of No Adverse Resource Impact for the White-Cedar-Osceola Site, Osceola County, Michigan. The report provided extensive information relative to the local hydrology, hydrogeology, and the projected environmental impacts of a proposed 150 gpm withdrawal from the site as required of the petition process. The review resulted in a determination that the proposed withdrawal would not likely cause an adverse resource impact as defined by Part 327 of the NREPA.

The Nestle request was the first of its kind to be reviewed by the DEQ under the new law regulating water withdrawals. The review and finding by the DEQ at this time are voluntary. The voluntary determination was made only within the context of Section 32724 of the NREPA, under which a person who intends to make a large quantity withdrawal may petition the DEQ for a determination of whether the withdrawal will likely result in an adverse resource impact as defined in the statute.

The administrative determination of whether a proposed withdrawal is likely to have an adverse resource impact accounts only for the use of that term in Part 327 of the NREPA. That term in Part 327 defines an adverse resource impact as a reduction in stream flow or a reduction in the level of a surface water body such that the ability of the stream or surface water body to support the characteristic fish population is functionally impaired.

The proposed withdrawal volume is well below the volume DEQ, in consultation with the DNR, projected would be allowable as a large quantity withdrawal without causing a functional impairment of the trout populations in the streams affected by the withdrawal. Where judgments were necessary in the application of data and standards, the DEQ and DNR used conservative approaches in reaching this conclusion.

The DEQ acknowledges concern that the judgment embodied in the adverse resource impact determination is a narrow one and does not account for other possible environmental effects of the proposed withdrawal. However, the determination is also not a statement as to the overall legality of the proposed withdrawal. The proposed withdrawal cannot occur if it does not comply with other laws ensuring protection of the environment. See further discussion under “Compliance with Other Laws” below.

Compliance with Other Laws: Comments were received on issues related to compliance with other laws and regulations.

Comment: The data submitted in the petition process was inadequate to allow for comments regarding impairment or harm under Part 301, Inland Lakes and Streams, or Part 303, Wetlands Protection, of the NREPA.

Comment: The data was insufficient to determine compliance with Part 17, Michigan Environmental Protection Act, of the NREPA, including consideration of environmental effects and the likely impairment or destruction of the streams, ponds, lakes, wetlands, or plant and animal species as required by Part 17.

Comment: The proposed project constitutes a diversion of water that is prohibited by the Federal Water Resources Development Act as it has not been approved by the Governors of the Great Lakes states.

Comment: The data and information were insufficient to allow for meaningful comment on the proposed determination relative to common law, including riparian rights and public trust doctrine.

Response: The DEQ acknowledges that the determination and supporting information does not address other laws that may impact Nestle's ability to conduct the proposed withdrawal. These may include, at a minimum, those laws described in the above comments. In addition, the DEQ determination does not modify or affect the extent to which the proposed withdrawal may be limited by common law riparian rights or the public trust doctrine.

The determination of no adverse resource impact is a very narrow administrative decision. It concludes only that the proposed withdrawal would not likely cause a functional impairment to the fish populations of the affected stream reaches. As a result, information related to the applicability and limitations of other laws is not considered in the DEQ determination.

Correspondingly, the determination does not indicate, in any way, a DEQ decision as to whether other laws apply or whether the standards of applicable laws are met. For example, the determination conveys no right or authority to cause an impairment or destruction of streams, ponds, lakes, wetlands, or plant and animal species in violation of Part 17 of the NREPA.

The narrow affect of the DEQ determination is created by the voluntary petition process set forth in Section 32724 of the NREPA. That process allows an individual to ask of the DEQ a specific, narrow question: whether a proposed withdrawal would be likely to create an adverse resource impact under Part 327? In this way, it is unlike the administrative determinations that would be required of the DEQ in the context of a permit application. The DEQ may be required to consider and apply several legal requirements when considering a permit application.

It should be noted that before the proposed withdrawal could be used for the described purpose as a source for bottled water, specific permits from the DEQ would need to be obtained. These include permits under the Michigan Safe Drinking Water Act, 1976 PA 399, as amended.

Adequacy of Public Involvement: The DEQ received comments on the adequacy of the public involvement process for the proposed determination of no adverse resource impact.

Comment: There was concern over the fact that public notice on the petition was not given within a reasonable time of receipt and that the notice was not posted on the official register of the DEQ.

Comment: The data was insufficient to allow for meaningful comment on the proposed determination.

Comment: There was concern with the perceived inadequacy of the petition package submitted to the DEQ given the presumed failure on behalf of the petitioner to disclose all available information. There was a fundamental belief that the submitted data was not sufficient or commensurate with the nature and extent of the withdrawal.

Response: The voluntary petition process established by Section 32724 of the NREPA does not contain a public involvement process. Accordingly, the DEQ was under no legal obligation to provide notice of, or opportunity to, comment on the proposed determination.

Nevertheless, the DEQ believed it was appropriate to provide an opportunity for the public to comment on the proposed determination in light of two primary considerations: it is the first application of the adverse resource impact standard under Part 327 of the NREPA, and there is significant public concern and interest in the environmental effects of large quantity withdrawals, particularly those involving bottled water.

To foster effective public comment, the DEQ believed it best to seek comment on a proposed determination, rather than simply noticing the receipt of the application. Issuing a proposed determination allowed the public to discern and comment on the specific criteria that the DEQ will use in making its decisions under Part 327 of the NREPA, and how those criteria were proposed to be applied in the specific case at hand. While this allows more targeted public comment, it also requires time necessary for the DEQ to develop the proposed determination. This has the effect of limiting the time available for public review and comment since Part 327 provides a specific time frame for the DEQ to respond to a voluntary petition for a no adverse resource impact determination.

In terms of the information available for public comment, the DEQ based its determination on the information submitted by Nestle's experts. That information was submitted in the Report in Support of Application for Determination of No Adverse Resource Impact for the White-Cedar-Osceola Site, Osceola County, Michigan. That report was made available to the public in conjunction with the proposed determination. Since the DEQ did not rely on other information in making its proposed determination, the DEQ sees no reason to request other peripheral information that would have no bearing on the petition process or the requested determination.

Independent Study: Comments requested that an independent study be completed by the DEQ and/or the USGS and expressed concern over the validity of the Malcolm Pirnie, Inc., study.

Response: Section 32724 of the NREPA provides no basis for the completion of independent studies by the DEQ. More specifically, the requirements for petitioning of the DEQ calls for the submittal by the petitioner of specific information. The specified information includes:

- A place and source for the proposed withdrawal.
- The location of any discharge or return flow.
- The location and nature of the proposed or existing water user.
- The actual or estimated average annual and monthly volumes and rate of withdrawal.

In addition to the above information, the petitioner is to provide an evaluation of the environmental, hydrological, and hydrogeologic conditions that exist and the predicted affects of the intended withdrawal. The submitted information is required to provide a reasonable basis on which to determine the likelihood of an adverse resource impact. The aforementioned required information was provided by the petitioner's consultant and deemed sufficient by the DEQ to render the determination.

The DEQ considers a variety of factors in assessing whether information submitted by outside parties is credible. These factors may include the DEQ's past experience with the party providing the information, evaluation of techniques used in collecting data, and consistency of data both internally and with DEQ knowledge of the subject.

Miscellaneous Comments: The DEQ received comments expressing generalized concerns about parties involved and factors related to public values.

Comment: The DEQ should reject Nestle's proposed withdrawal as a threat to Michigan's most valuable public resource.

Comment: Concern was expressed over the control, ownership, and compensation for water held in "trust" by the people of the state of Michigan.

Comment: Concern was expressed with, or allegations of, the presumed illegality of a private entity benefiting from the sale of water that many consider a public resource. Many in this category also had concern over the privatization by a foreign owned company.

Comment: Concern was expressed over Nestle's manner of operation as a corporation.

Comment: Concern was expressed over the proposed withdrawal's possible impact on tourism, recreation, and/or agriculture.

Comment: Concern was expressed over the absence of laws to prevent the unreasonable use of the groundwater resource and other water resources in Michigan.

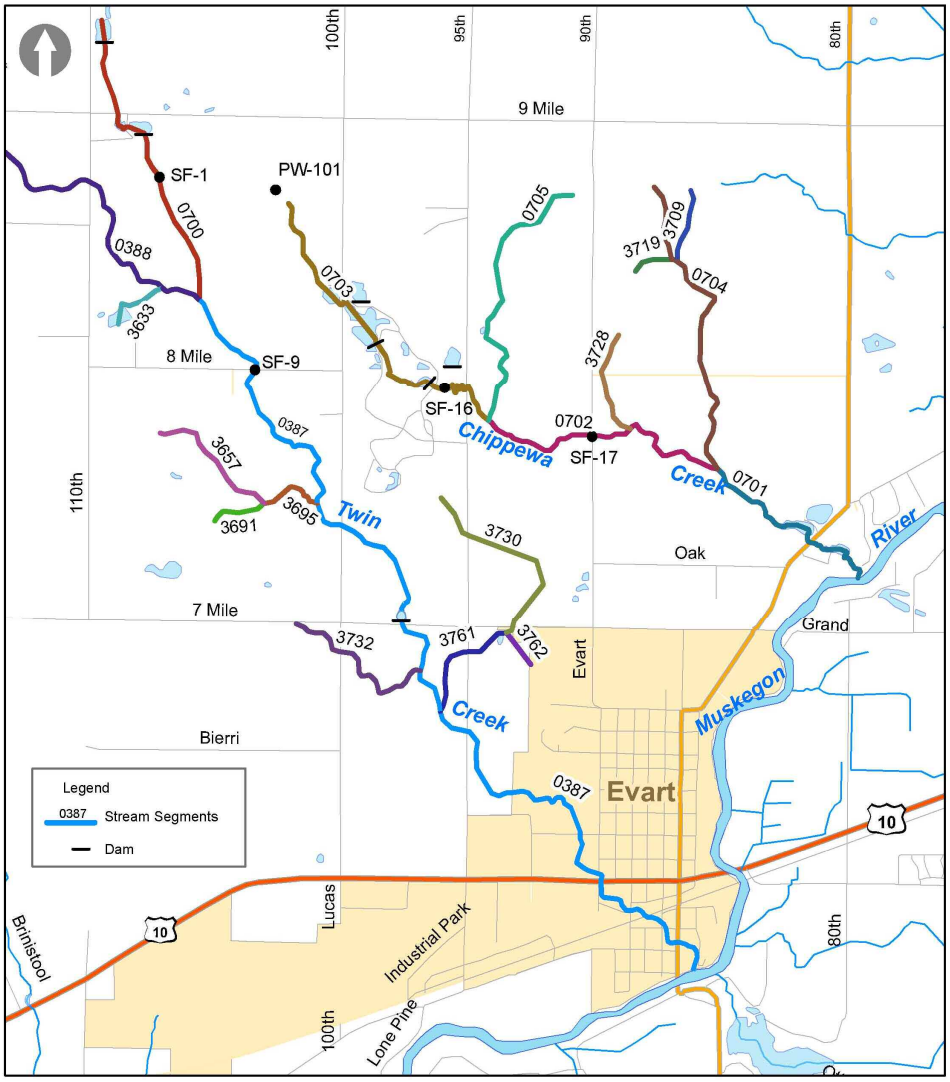
Comment: Concern was expressed over the lack of regulation over the disposal of plastic bottles associated with bottled water.

Response: These comments are considered not germane or pertinent to the petition process or the proposed limited administrative determination before the DEQ. As described above, the decision before the DEQ is a very limited one and is not structured to consider these generalized concerns. However, even though the DEQ is limited by law as to what can be considered in response to a voluntary petition for a no adverse resource impact determination, we do not view these concerns as unimportant. They are, however, more properly expressed in another forum such as legislative consideration of Part 327 of the NREPA.

VII. Summary of DEQ Position

The DEQ determines that the proposed new withdrawal of groundwater is not likely to cause an adverse resource impact under Part 327 of the NREPA. The DEQ bases this determination on extensive information and data pertinent to the factors used in making the determination and in consideration of the comments received from the public on the proposed determination made available for public review.

Figure 2-3 as Referenced in Hydrologic Settings



S.S. Papadopulos & Associates, Inc.

Figure 2-3 Stream Segments as Defined in the National Hydrography Dataset (NHD)

Table 1: W-C-O Site Flow and Allowable Withdrawal Determination

Watershed	Location	Drainage Area (mi^2)	Ratio of Drainage Areas	Index Flow From Drainage Area Ratio (cfs)	Nestle Flow Estimate (cfs)	Improved Index Flow (cfs)	Habitat Factor (dimensionless)	Allowable Withdrawal	
								cfs	gpm
East Branch Pine River	USGS Gage	58.9	1	9.6*	NA	9.6	NA		
Twin Creek	SF-1	9.7	NA		1.3	NA			
	SF-9	16.5			5				
	Upstream segment 3695	16.7	0.283	2.7	NA	4.4	0.13	0.6	260
Chippewa Creek	SF-16	0.73	NA		2	NA			
	SF-17	2.8			4.2				
	Upstream segment 0705	2.9	0.049	0.5	NA	3.8	0.13	0.5	220

* Index flow obtained from USGS stream flow measurements